

Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of the claims in the application:

1 1. (Original) In a remote data mirroring arrangement of data storage systems, a method  
2 of connecting ports on a data storage system to ports on other data storage systems  
3 comprising:

4 providing each storage system with configuration topology information;  
5 determining from a switch fabric that connects to ports of all of the data storage  
6 systems information identifying ports of the other data storage systems connected to the  
7 switch fabric; and

8 using the configuration topology information and the information obtained from the  
9 switch fabric to establish a logical link between a port on the storage system and a second  
10 port on a second storage system so that data residing on a device group supported by the port  
11 and a corresponding, mirrored device group supported by the second port can be exchanged  
12 between the data storage system and the second data storage system.

1 2. (Original) The method of claim 1, wherein the configuration topology information  
2 comprises configuration topology tables.

1 3. (Original) The method of claim 2, wherein the configuration topology tables further  
2 comprise a device groups table identifying the device groups supported by the data storage  
3 system and providing for each of the device groups a pointer to one of the other data storage  
4 systems that serves the device group.

1 4. (Original) The method of claim 3, wherein the configuration topology tables further  
2 comprise a remote systems table specifying by serial number each one of the other data  
3 storage systems that is pointed to by the pointer in the device groups table.

1 5. (Original) The method of claim 4, wherein the configuration topology tables further  
 2 comprise a processors table identifying by a unique name each processor in the data storage  
 3 system and providing an associated pointer to any one or more of the device groups  
 4 supported by such processor.

1 6. (Original) The method of claim 5, wherein determining comprises:  
 2 receiving from the switch fabric a list of the ports of the other data storage systems,  
 3 the list including for each of the ports a corresponding World Wide Name, the World Wide  
 4 Name including unique names for processors and a serial number for the data storage system  
 5 with which the port is associated.

1 7. (Original) The method of claim 6, wherein using comprises:  
 2 determining if any of the device groups are served by the World Wide Name.

1 8. (Original) The method of claim 7, wherein using further comprises:  
 2 determining if a serial number of one of the storage systems pointed to by any of the  
 3 device groups matches the serial number included in the World Wide Name;  
 4 if a match exists, reading the unique processor name that is associated with the  
 5 pointer that points to the matched device group; and  
 6 writing to a new link entry in a link table pointers to the unique processor name and  
 7 the device group as well as a state value of one.

1 9. (Original) The method of claim 8, wherein using further comprises:  
 2 performing a single link discovery for the port and the port having the World Wide  
 3 Name.

1 10. (Original) The method of claim 9, wherein the ports are state machines and wherein  
2 the single link discovery establishes the logical link when each of the state machines  
3 advances to a '0xFF' state from a '1' state.

1 11. (Original) The method of claim 10, wherein performing the single link discovery  
2 comprises exchanging between the ports data from the respective configuration topology  
3 tables of the ports to determine if the data matches.

1 12. (Original) The method of claim 1, wherein the switch fabric comprises a Fibre  
2 Channel switch fabric.

1 13. (Canceled)

1 14. (Canceled)

1 15. (Previously Presented) In a remote data mirroring arrangement of data storage  
2 systems, an apparatus for connecting ports on a data storage system to ports on other data  
3 storage systems comprising:  
4 means for providing each storage system with configuration topology information:  
5 means for determining from a switch fabric that connects to ports of all the data  
6 storage systems information identifying ports of the other data storage systems connected to  
7 the switch fabric; and  
8 means for using the configuration topology information and the information obtained  
9 from the switch fabric to establish a logical link between a port on the storage system and a  
10 second port on a second storage system so that data residing on a device group supported by  
11 the port and a corresponding, mirrored device group supported by the second port can be  
12 exchanged between the data storage system and the second data storage system.

1 16. (Previously Presented) The apparatus of claim 15, wherein the configuration  
2 topology information comprises configuration topology tables.

1 17. (Previously Presented) The apparatus of claim 16, wherein the configuration  
2 topology tables further comprise a device groups table identifying the device groups  
3 supported by the data storage system and providing for each of the device groups a pointer to  
4 one of the other data storage systems that serves the device group.

1 18. (Previously Presented) The apparatus of claim 17, wherein the configuration  
2 topology tables further comprise a remote systems table specifying by serial number each  
3 one of the other data storage systems that is pointed to by the pointer in the device groups  
4 table.

1 19. (Previously Presented) The apparatus of claim 18, wherein the configuration  
2 topology tables further comprise a processors table identifying by a unique name each  
3 processor in the data storage system and providing an associated pointer to any one or more  
4 of the device groups supported by such processor.

1 20. (Previously Presented) The apparatus of claim 19, wherein the means for determining  
2 comprises:  
3 means for receiving from the switch fabric a list of the ports of the other data storage  
4 systems, the list including for each of the ports a corresponding World Wide Name, the  
5 World Wide Name including unique names for processors and a serial number for the data  
6 storage system with which the port is associated.

1 21. (Previously Presented) The apparatus of claim 20, wherein the means for using  
2 comprises:

3 means for determining if any of the device groups are served by the World Wide  
4 Name.

1 22. (Previously Presented) The apparatus of claim 21, wherein the means for using  
2 further comprises:

3 means for determining if a serial number of one of the storage systems pointed to by  
4 any of the device groups matches the serial number included in the World Wide Name:

5 means for reading the unique processor name that is associated with the pointer that  
6 points to the matched device group; and

7 means for writing to a new link entry in a link table pointers to the unique processor  
8 name and the device group as well as the state value of one.

1 23. (Previously Presented) The apparatus of claim 22, wherein the means for using  
2 further comprises:

3 means for performing a single link discovery for the port and the port having the  
4 World Wide Name.

1 24. (Previously Presented) The apparatus of claim 23, wherein the ports are state  
2 machines and wherein the single link discovery establishes the logical link when each of the  
3 state machines advances to a '0xFF' state from a '1' state.

1 25. (Previously Presented) The apparatus of claim 24, wherein means for performing the  
2 single link discovery comprises means for exchanging between the ports data from the  
3 respective configuration topology tables of the ports to determine if the data matches.

1 26. (Previously Presented) The apparatus of claim 15, wherein the switch fabric  
2 comprises a Fibre Channel switch fabric.

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1 27. (Canceled)

1 28. (Canceled)

1 29. (Canceled)

1 30. (Canceled)